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Volume 6 THE MONTHLY NEWSLETTER FOR ENERGY MANAGERS AND PUBLIC AFFAIRS OFFICERS Issue 7

Message to Energy Managers:

The energy crisis in California has occupied the headlines for over a year now and the solutions remain uncertain. NRSW undertook many energy-savings programs prior to the energy crisis, yet costs still soared last year. Undaunted, they rose to the challenge and implemented even more initiatives to reduce their energy consumption.

DON has also called for reducing electric demand by summer's end in light of anticipated energy shortages. This will have the extra benefit of reducing "demand charges" utility companies charge to large customers during peak periods.

Check out DOD's Fuel Cell program website that illustrates DON's participation in this demonstration program.

Sincerely,

Bill Taylor

William F. Tayler
Manager Utilities/Energy

Navy Region Southwest Responds to Changing Energy Markets

It didn't take an energy crisis to get Navy Region Southwest (NRSW) to take action to reduce consumption and peak demand, but these actions have been a blessing in light of recent energy shortages. Following a move to regionalization, the NRSW Regional Energy Program Office was established in 1999. Prior to the California energy crisis beginning in the summer of 2000, NRSW had undertaken many major initiatives, such as:

- Re-establishing the Utility Demand Reduction Program.
- Installing energy-efficient fluorescent lighting and LED exit signs.
- Expanding electric, water, and gas metering.
- Establishing an energy-efficient procurement policy.
- Placing 35 kW of photovoltaic power and three 225-kW wind turbines on line.
- Recruiting a Resource Efficiency Manager.

Despite significant progress, electricity costs rose to $70.7 million in FY2000 from $49.5 million the year before.

In response to sharply rising costs, the Energy Office broadcast daily energy updates and load reduction email alerts , and set a permanent demand reduction condition in early August. It issued top-level messages prescribing load reduction measures. All air conditioning was banned except for medical and critical equipment. Policy dictated that personal computers and office equipment be turned off at night. Eleven energy "specialists" were deployed to the field. Weekly load profiles were issued for each base, and the 10 largest consumers were identified. Weekly electricity action meetings and "Electricity Summits" convened. NRSW kept in constant touch with U.S. DOE and California Energy Commission with daily phone calls. Naval messages are sent to Commanding Officers, and Navy and Marine Corps Action Officers in California are notified by e-mail and conference calls.

Guidance and Directives

Although the benefits of the energy savings projects are being realized as construction is completed, most of the savings result from per-

NRSW, continued on page 3

F.Y.I.

The Navy is San Diego Gas & Electric's (SDG&E's) largest customer, consuming 800,000 MWh a year. Public Works Center San Diego has a peak demand of 130 MW, which represents 3% of SDG&E's peak load, and 0.3% of the entire peak load of California.

DON Energy Awareness Website: Access the tools on the Navy Energy website for ideas, planning tips, and tools. Set your browser to <**http://energy.navy.mil**> and scroll down the left-hand column to the Awareness pick.

Energy Crisis Timeline

June 2000 San Diego customers got a harsh free market lesson when higher wholesale power prices tripled their rates.

14 June 2000 A localized series of blackouts was ordered in the San Francisco Bay Area due to a power shortage. California lurched through a series of power emergencies during the summer amid soaring demand for air conditioning during heat waves.

4 December 2000 California utilities asked consumers to refrain from turning on Christmas lights until after 8 p.m. to save power.

17 January 2001 Rolling blackouts were ordered statewide for the first time ever in a desperate bid to avoid overloading the state's power grid.

18 January 2001 A fresh wave of blackouts hit parts of northern and central California for a second straight day. Some two million Californians experienced rolling blackouts.

23 January 2001 The Bush administration extended emergency orders forcing out-of-state companies to supply electricity and natural gas to California utilities through Feb. 6, but warned there will be no further extensions. The emergency orders were extended several times by the outgoing Clinton administration.

24 January 2001 California concluded the state's first-ever electricity ``auction''. Weighted average of bids was 6.9 cents per kilowatt hours (kWh), or $69 per megawatt hour (MWh).

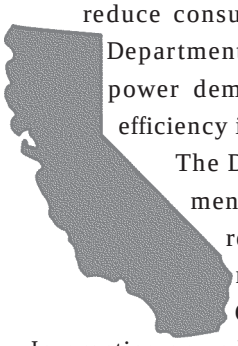
25 January 2001 U.S. Federal Reserve Chairman Alan Greenspan said the California energy crisis could undermine economic growth and affect the rest of the economy if not urgently addressed.

January - March 2001 For 32 consecutive days, California experienced Stage 3 emergencies due to lack of energy resources. In January and March, the California Independent System Operator (CAISO) ordered rotating outages as a result of the diminished power supply.

6 April 2001 Pacific Gas and Electric Company, the utility unit of PG&ECorporation filed for reorganization under Chapter 11 of the U.S. Bankruptcy Code in San Francisco bankruptcy court.

DON Plans to Reduce Electricity Demand

California and much of the western United States is expected to go through another critical period of energy shortages. California Governor Gray Davis asked residents, businesses and agencies to reduce consumption by 10% by the end of the summer. The Department of Defense (DoD) is voluntarily reducing its peak power demand by combining energy conservation, energy efficiency investments and power generation alternatives.

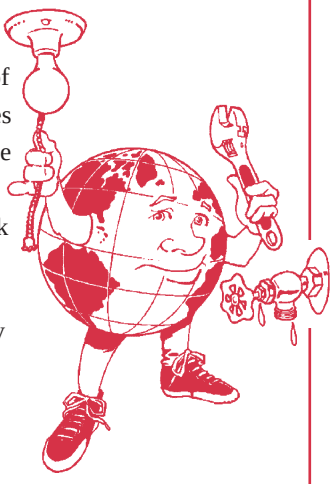


The Department of the Navy (DON) has already implemented conservation efforts resulting in significant reductions. There are now plans to take additional measures to reduce the load of Navy and Marine Corps bases during peak power usage periods.

In practice or under consideration are generation options such as increased co-generation options. The DON is also considering increased investments in energy reduction projects.

Reduce Summer Demand Charges

Utility companies charge large customers a "demand charge" each month, providing an incentive for customers to reduce electrical loads during peak periods. Demand charges can make up as much as one-half of your facility's electricity bill. Reducing those charges always makes sense, even more so now during the long, hot summer. Load shedding doesn't reduce consumption but shifts usage to shave the peak demand and avoid excessive demand charges.



- Find out from your utility when your peak is likely to hit.
- Pay attention to weather forecasts which could affect peak.
- Schedule large loads, when possible, for off-peak hours.
- Document your peak avoidance efforts and share the information with your supervisor.
- Use stand-by generators when possible to shave peak.
- Always minimize waste.

Check out a more detailed brochure on peak demand charges by visiting http://energy.navy.mil.

***NRSW**, continued from page 1*

sonnel acting on guidance and directives. According to LCDR Wade Wilhelm, Utilities Program Manager, "Success is from strong Command support and the efforts of the total Navy team. The guidance indicated how to reduce energy consumption and dollars, then personnel were given demand data via the web to help them identify opportunities and realize the payoff."

Building Energy Monitors

The Building Energy Monitor (BEM) network is a key resource tapped to keep personnel informed of developments, instruct personnel on actions they need to take, and provide positive reinforcement. The Regional Energy Office provides expertise and energy data building specific, primarily through a web-based demand management system, while the BEM provides the knowledge of building operations and requirements information, and identifies building deficiencies. The BEM also generates many valuable ideas for reducing demand for the Energy Office.

NRSW shore energy consumption has been reduced by a cumulative 11% from July 2000 through May 2001 when compared to the same period the previous year.

Other Resources

NRSW draws on a number of other important resources to achieve significant reductions, such as:

- All-hands energy training.
- Continuing one-on-one discussions with key personnel.
- Providing briefs to focus groups, e.g., Command Master Chiefs.
- Providing recognition to top performers. For example, in October 2000 the Commanding Officer, Naval Base San Diego, presented the Civilian Meritorious Service Medal to the Site Manager for Bachelor Housing for his proactive installation of energy-efficient refrigerators, compact fluorescents, and clothes washers.

Alternative Financing

With dwindling resources, utility demand-side management (DSM) and energy savings performance contracting (ESPC) have played a major role in funding energy efficiency projects and initiatives. NRSW awarded $21 million in DSM projects in September 2000. A $2.1 million ESPC delivery order (D.O.) for HID retrofits was awarded in March 2001. Additional DSM and ESPC projects totaling $30-$40 million are under development to be awarded this year. These alternative-financed projects will eliminate 50,000 incandescent light bulbs and replace 1,200 inefficient refrigerators.

Distributed Generation

An ESPC D.O. is being developed for two 75-kW microturbines at NAB Coronado, which will use waste heat to pre-heat the existing high-temperature hot water return system.

Another D.O. is being developed for a 30 kW PV system. A third D.O. is under development for a possible expansion of the cogeneration plant at Naval Medical Center, San Diego.

For more information, contact Lieutenant Commander Wade Wilhelm at 619-556-7013, E-mail: wilhelmwb@pwcsd.navy.mil

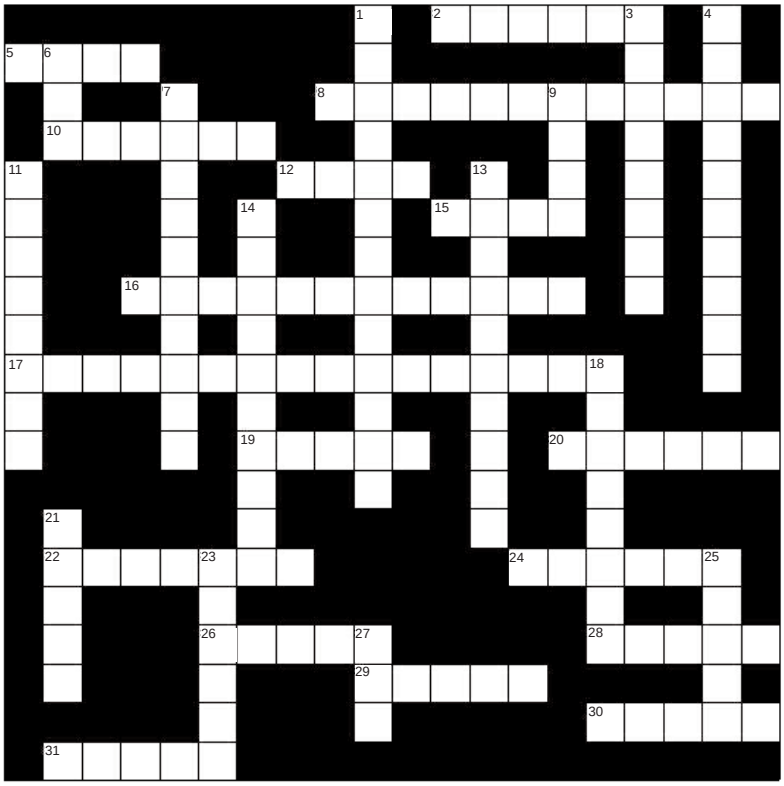
California Energy Crisis

Across

2. Season when air conditioner usage is the highest
5. Chimney dirt
8. The joint production and use of electricity and heat
10. Light output measurement
12. Soft Light
15. Conserve
16. California's energy problems followed
17. Temporary loss of power in California
19. Startle
20. Soft color
22. Energy wasters
24. Grave problem
26. Blue planet
28. Energy conscious
29. Protective Earth covering
30. Don't _____ electricity
31. Energy conservation saves _____

Down

1. Solid-state cells that directly convert sunlight into electricity
3. Increase efficiency in existing structure
4. Technology used by the US Naval Observatory to update HVAC system
6. Type of heating oil
7. Protect building from heat and cold
9. Type of memorization
11. Reduce energy or water consumption
13. State experiencing high demand, low supply of electricity
14. Appliances exceeding efficiency
18. Reduce load during peaks
21. California's Governor
23. _____ awareness
25. Body reaction to summer heat
27. Summer weather



Check it out

DOD Fuel Cell Website

The Department of Defense's (DoD) Fuel Cell program website summarizes the activities of DoD's Fuel Cell Demonstration program. DON is active in the project.

The program is intended to stimulate growth and economies of scale in the fuel cell industry and determine the role of fuel cells in DoD's long term energy strategy.

In the program, DoD installed 30 phosphoric acid fuel cell units at facilities in 17 states. The fuel cells are set up to provide electricity for heater boilers, domestic hot water, space heating and backup power in hospitals, central plants, barracks, offices, gyms, and other facilities. DON takes part in the project at Naval Station Newport, CBC Port Hueneme, Naval Oceanographic Office, NAS Jacksonville, NAS Fallon, Subase New London, and the US Naval Academy, as well as naval hospitals at Camp Pendleton and Twentynine Palms.

For more information, go to <www.dodfuelcell.com> and click on **program overview** or **demo sites**.

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Watts News?

We want to hear from you.

Tell us about the energy initiatives you're working on, the problems you encounter, and the solutions you discover.

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energized is a publication sponsored by the Energy and Utilities Management Division, Naval Facilities Engineering Command. The views and opinions expressed in this publication are not necessarily those of the Department of the Navy.

Printed by the Naval Facilities Engineering Service Center

NAVY / MARINE CORPS ENERGY EFFICIENCY

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